

FY 2009 Guidelines for Director's Research and Development Fund Proposals

Deadline for submissions: Wednesday, December 3, 2008 4 PM PST

NOTE: These Guidelines only applies to proposals submitted for FY 2009 consideration.

You may wish to print this page for a complete hard copy of the DRDF FY 2009 Guidelines. The guidelines are also available in MS Word format or [Adobe PDF format](#). [Acrobat Reader](#), available free, is required to view and print the PDF file. DRDF Proposal Guidelines: [MS Word Document](#), [PDF file](#)

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A. Introduction	«Link to Top of Page»
<p>The Director's Research and Development Fund (DRDF) program is a source of research funds aimed at establishing collaborations with external partners on mutually beneficial topics. Proposals that emphasize innovative science and/or breakthrough technology for space missions with a clear, specific plan of approach are sought. Collaborations between an external institution and JPL are required. Each proposal can range up to \$200K.</p> <p>Participation of faculty on sabbatical at JPL is possible, whereby the faculty might use a portion of the award to augment the sabbatical program existing at their institution.. In addition, a JPL PI may voluntarily choose to spend a more extensive period of time at the external co-Is facility if the PI can demonstrate that the research has advantages for JPL if performed at the partner's location. The JPL PI would be placed in a voluntary remote assignment status, whereby salary only would be paid, with no additional per diem and lodging allowances. The proposal should specifically discuss any of these arrangements, if applicable.</p>	

B. Proposal Constraints	«Link to Top of Page»
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- The DRDF Program requires external participation at domestic universities, companies, NASA Centers, or government laboratories.
- Funds cannot be sent to foreign nations.
- New proposals will not be able to apply for renewal funding so all proposed activities must be complete within the twelve month award period.

Any questions or requests for clarification of these constraints should be sent in writing and directed to Katherine.A.Dumas@jpl.nasa.gov.

C. Required Forms and Submission Process

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1. A proposal template that contains the entire proposal submission with the exception of the Recommended Technical Reviewers Sheet (see item 3 below) is provided in Attachment 1. This is an unlocked template that allows you to completely respond to each section. Figures, graphics, tables etc. should appear at the end of the proposal. Please do not use "text-wrapping" when incorporating graphics at the end of the report. **Do not exceed 6 pages total for this submission.**
2. A Budget Sheet is incorporated into Attachment 1 and must be completed and itemized for both JPL and the external collaborator (including Caltech Campus). BE AWARE THAT ALLOCATED DIRECT COSTS (ADC) AND LABOR RATES (except Multiple Program Support (MPS)) ARE APPLICABLE for the DRDF. Please contact your Section Administrator or Business Administration Manager for current **FY 2009 rates** and assistance in filling out the form.
3. A Recommended Technical Reviewers Sheet (see Attachment 2) should be completed with the names and phone extensions of possible JPL reviewers. If you must use external reviewers give the full name, mailing address, phone number, FAX number and e-mail address of the reviewer. Do not submit reviewers from foreign countries.
4. Once your Attachment 1 proposal template has been completed, you will need to submit your Attachment 1 file electronically into the DRDF website. (Please do not submit your Attachment 2, Recommended Technical Reviewers Sheet electronically.) **Instructions for obtaining your assigned proposal number and electronically submitting your proposal Attachment 1 file can be found at <http://drdf.jpl.nasa.gov/submissions/>.** We strongly recommend you submit the electronic copy early to allow for potential problems
5. Hard-copies of the documents listed below must be received by Vivian Molina, 4800 Oak Grove Drive, M/S 180/600, Pasadena, CA 91109-8099 **by no later than 4 PM PST on Wednesday, December 3, 2008.** You can also hand deliver the copies to office 180/600C.
 - i. The original signed copy of Attachment 1 and 10 additional copies of Attachment 1 **all with the assigned DRDF proposal number typed or written in the upper right-hand corner.** The proposal number will automatically be assigned to you upon your successful submission of your Attachment 1 proposal

- file into the DRDF website.
- ii. The original and three copies of the completed Recommended Technical Reviewers Sheet (Attachment 2) **with your assigned DRDF proposal number typed or written on the upper right-hand corner.**

D. Instructions on How to Obtain Your Assigned Proposal Number and Electronically Submit Attachment 1

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1. Once your Attachment 1 Proposal has been completed, you will then need to access the electronic submission site in order to obtain your assigned proposal number, and then electronically submit only your Attachment 1 Proposal. Detailed instructions for obtaining your assigned proposal number and electronically submitting the completed Attachment 1 Proposal file can be found under the submissions section of the DRDF web site.
2. In the submission site, you will be prompted to input information about your proposal. After submitting this information, your proposal number will be assigned and shown to you.
3. After having obtained your assigned proposal number from the submissions site, type your proposal number on the upper right-hand corner of your Attachment 1 - Proposal file. Remember to save the file after having typed in your assigned number.
4. You will then electronically submit only Attachment 1 - Proposal file (which includes the typed proposal number) into the DRDF submission site.
5. PLEASE NOTE that you will not electronically submit Attachment 2 - Recommended Technical Reviewers Sheet into the DRDF submission site.
6. IMPORTANT - We strongly recommend you submit the Attachment 1 electronic file early to allow for potential problems.

E. Proposal Template Sections (please see reference [Attachment 1](#))

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1. **Title:** Type the full title of the proposal
2. **Principal Investigator:** Type the first and last name of the PI and the PI line organization number. NOTE: Only one JPL PI can be listed on the proposal. External co-PIs need to list their affiliation and the JPL

co-PI and organization working on the proposal.

3. **Co-Investigators:** Include the first and last names of all JPL and external investigators, and the JPL line organization number and the external affiliation.
4. **Budget:** Give the FY 2009 budget total cost that is listed in the Budget Sheet. JPL investigators be aware that allocated direct costs (ADC) and labor rates (except Multiple Program Support (MPS)) are applicable to the DRDF.
5. **Starting and anticipated Technology Readiness Levels (if applicable):** Type in a number from 1 to 9 following the definitions listed below:

Basic Technology Research:

Level 1: Basic principles observed and reported

Research to Prove Feasibility::

Level 2: Technology concept and/or application formulated

Level 3: Analytical and experimental critical function and/or characteristic proof of concept

Technology Development::

Level 4: Component and/or breadboard validation in laboratory environment

Technology Demonstration:

Level 5: Component and/or breadboard validation in relevant environment

Level 6: System/subsystem model or prototype demonstration in a relevant environment (ground or space)

System/Subsystem Development:

Level 7: System prototype demonstration in a space environment

System Test, Launch and Operations:

Level 8: Actual system completed and "flight qualified" through test and demonstration (ground or space)

Level 9: Actual system "flight proven" through successful mission operations

A more detailed description of these levels can be found in a White Paper found at http://www.trecc.org/partners/TRL_paper.pdf.

6. **Field Work Testing:** Check the box if this proposal will require **off-lab** fieldwork/testing.
7. **Objective:**
 - a. **General Objectives:** State in a clear and concise text format the objectives or goals of your proposal. Answer the question "What are you proposing to do?" We are not looking for a justification of your work but rather a statement of the work you plan to do. In addition, identify the expected specific products that you intend to deliver.
 - b. **Quantitative Objectives:**
 - i. Provide measures of the capability that your proposal addresses and using these measures quantify the capability your DRDF proposal aims for.
 - ii. Compare the current state-of-the-art of this capability both at JPL and outside of JPL.
8. **Approach:** Describe how you plan to achieve your stated objectives. List specific tasks, responsibilities and time periods for the tasks and indicate the principal milestones during the fiscal year.

9. **Innovative Features:** Describe the innovative features in this proposal. **State specifically whether this is a natural evolution advancement that you are proposing or a major breakthrough.** Relate these innovation features to current approaches both inside and outside JPL.
10. **Contribution of External Investigators:** Describe specifically the work that is being done by the external investigators and any special resources or facilities from their institute that will be used for this work. External co-PIs need to describe what they bring to the proposal for facilities and what will be used at JPL. External Investigators need to list and describe specific tasks, responsibilities and time periods for the tasks that are being done. If sufficient detail is provided, this may be used as the Statement of Work (SOW) in a JPL subcontract, which could eliminate the need for a separate SOW request.
11. **Exchange of Personnel:** Discuss any plans of the partner personnel performing work at JPL or if a JPL PI plans to work at the partner location. The JPL PI must make a case for the advantage to JPL in having the work performed at the partner's location. If the JPL PI works for an extended period of time at the collaborator location then the PI will be placed on voluntary remote assignment status whereby salary only would be paid with no additional per diem and lodging allowance.
12. **Significance and Impact of Result:** Discuss the significance of this research and the impact this work may have on JPL missions and programs.
13. **Has the proposal been submitted elsewhere** (e.g. Research and Technology Development Fund, external sponsor?: If yes explain.
14. **Plans for follow-on funding:** Provide a realistic assessment of the potential of the task for follow-on funding and possible sources of such funding. The DRDF cannot provide a sustained source of support for an activity. Address how the proposal may enhance the probability of such funding.
15. **Budget Sheet:** Complete the budget sheet for both the JPL and external collaborators. You are not required to list each person's salary within the budget. You can simply list the individual's name or job classification and the number of hours for each person, and then provide one total salary \$ figure. Domestic programmatic travel needed for research purposes is allowed. Domestic conference travel up to 5% of the total budget is also allowed. Itemize the travel with a brief explanation of what and when the travel is required. Allocated Direct Costs and labor fringe rates apply however Multiple Program Support does not. Please make sure to use the combined budget (JPL and External Institution) when calculating the Allocated Direct Costs. Use the RSA ADC rate only if your External Institution is with a university other than the California Institute of Technology or a non-profit institution. The ADC for the RSA should be included as a JPL cost in line 10b. Please contact your Section Administrator or Business Administration Manager for current **FY 2009 rates** and assistance in filling out the form.
16. **JPL PI Division Manager Approval Signature:** The Division Manager (or Manager III equivalent for program office submissions) of the principal investigator must sign and approve the proposal.

17. **External Affiliation Signature:** For university collaborators, it is customary to have the approval of the appropriate Dean or Department Chair. For other organization a cognizant official should sign. It is acceptable for the outside organization to submit a letter stating willingness to participate in the proposed research in lieu of signing the Attachment 1.
18. **JPL Principal Investigator Signature:** The JPL PI must sign the form.
19. **External co-Principal Investigator Signature:** If an external co-PI exists then he/she must sign the form.

F. Evaluation Process and Criteria

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1. An evaluation of all proposals will be carried out by the Science and Technology Management Council chaired by the JPL Chief Scientist and Chief Technologist, with the final selections being approved by the Director.
2. PLEASE NOTE: The investigators or their representatives may not contact the Science and Technology Management Council members after submitting their proposals to solicit the members' support. In fairness to all and with numerous proposals submitted, time does not permit the Council members to be briefed.
3. The technical selection criteria are as follows (see Attachment 3):
 - Innovation
 - Merit of technical approach
 - Strength of investigation team
 - Alignment with NASA and JPL strategic goals
 - Impact on JPL missions and programs
 - Cost effectiveness
 - Possibility of follow-on funding

G. Debriefing

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If your proposal is not funded, the principal investigator will be given a written summary of the technical comments for the proposal. Programmatic and institutional reviews that affect the proposal decisions will not be made available to the investigator.

By accepting an award the proposer is also accepting the following terms and conditions:

1. The Principal Investigator is required to manage the task expenditures to ensure that they do not exceed the amount of the award and report regularly on funds expended. The award has a twelve month period of performance to spend the awarded funds starting from the date the accounts are opened.
2. The JPL PI is required to initiate all the paperwork necessary to execute the required contract with the external collaborator.
3. If collaborating with foreign nationals, (NASA funding cannot be sent to foreign countries), non-JPL/Caltech employees, or long term visits is required and you wish to have them visit the Laboratory refer to the "Foreign National Access to JPL" policy statement via the JPL Rules! site.
4. Reporting annually on the status of the task via an Interim or a Final report is required. **Failure to submit a report could result in the Chief Scientist and Chief Technologist prohibiting you from being considered from any further funding opportunities, or may lead to closure of the task account.**
5. **DRDF Poster Session** -- Submission of a poster for the annual DRDF Poster Conference (and attendance by the task Principal Investigator or designated Co-Investigator) is required. Additional information regarding the Poster Conference will be sent at a later date.
6. JPL Requirement Pertaining to "Off-Lab Field Testing/Experimentation"

It is extremely important to note that if your DRDF research requires any off-Lab field testing/experimentation, then you are required to contact Kirk Barrow or Pamela Brown in the Environmental, Health and Safety Program Office prior to any field test. Because certain items may require some time to clear, you should work with Kirk Barrow or Pamela Brown early on in order to insure that you are able to carry out the field-testing in a timely manner. This is a JPL-wide requirement and is not simply limited to the DRDF Program.

7. The Director's Research and Development Fund (DRDF) principal objective is to provide funding to promote innovative seed efforts in promising fields of science and technology for which conventional program resources are not available and to ensure collaborative work with external organizations. As such every award that is made in the program is expected to contribute to the strategic needs of the Lab. It is anticipated that the researchers working on these tasks will publish the results of their work in refereed journals. At the end of the fiscal year you will be asked where you have published your results or where you will be submitting your results for publication.

The above-mentioned requirement applies to all DRDF funded tasks. In addition, both the JPL Chief Scientist and Chief Technologist also emphasize that any external publication or presentation (other than the DRDF Annual Report) of work performed under the DRDF must

have the following acknowledgement:

"This research was carried out at the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration and funded through the Director's Research and Development Fund Program."

I. Attachments

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Attention to those using Adobe PDF: Please be sure to embed ALL fonts in the PDF file. This ensures that the original fonts are used to display and to print on computers that may not have these fonts installed. Note that some versions of MS Word using Acrobat Assistant do not allow control over embedding of fonts. In that case, please print the Word document to "FILE" as a PRN or PS file and process through Acrobat Distiller to create the PDF. Note that you must still specify Embed All Fonts in your Print Setup dialog. If you need technical assistance please contact: Lori Williams, Lori.A.Williams@jpl.nasa.gov, (818) 393-6392.

Attachment 1: [Proposal template - MS Word](#)

Attachment 1: [Proposal template - PDF file](#)

Attachment 2: [Recommended Technical Reviewers Format - MS Word](#)

Attachment 2: [Recommended Technical Reviewers Format - PDF file](#)

Attachment 3a: [Technical Evaluation Report \(New Proposals\) - MS Word](#)

Attachment 3a: [Technical Evaluation Report \(New Proposals\) - PDF file](#)